

**Tucannon River Spring Chinook Captive
Broodstock Program**

Finding of No Significant Impact (FONSI)

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DEPARTMENT OF ENERGY
Bonneville Power Administration

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Summary: Bonneville Power Administration (BPA) is proposing to fund the Tucannon River Spring Chinook Captive broodstock Program, a small-scale production initiative designed to increase numbers of a weak but potentially recoverable population of spring chinook salmon in the Tucannon River in the State of Washington. BPA has prepared an Environmental Assessment (EA) (DOE/EA-1326) evaluating the proposed project. Based on the analysis in the EA, BPA has determined that the proposed action is not a major Federal action significantly affecting the quality of the human environment, within the meaning of the National Environmental Policy Act (NEPA) of 1969. Therefore, the preparation of an Environmental Impact Statement (EIS) is not required, and BPA is issuing this FONSI.

Copies: For copies of this FONSI or the EA, please call BPA's toll-free document request line: 800-622-4520. It is also available on our website at www.efw.bpa.gov.

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Public Availability: This FONSI will be distributed to all persons and agencies known to be interested in or affected by the proposed action or alternatives.

Supplementary Information: BPA proposes to fund the Tucannon River Spring Chinook Captive Broodstock Program. This project involves the following activities: (1) expanding the Lyons Ferry Hatchery (LFH), an addition of eight 20-foot circular rearing tanks (partially funded by U.S. Fish and Wildlife Service [USFWS]); (2) collecting juvenile fish from the existing hatchery spring chinook population, rearing these fish in the hatchery to maturity, and "spawning" them; (3) hatching and rearing their progeny; and (4) acclimating and releasing up to 150,000 smolts annually (from 2002-2008) back into the Tucannon River to preserve and recover the population for the future. This project would double the number of hatchery juvenile spring chinook smolts planted into the Tucannon River. The current Lower Snake River Compensation Program hatchery supplementation program releases 132,000 smolts annually. These two programs are predicted to rebuild adult returns to pre-1994 levels (550-600 hatchery origin fish) between 2005 and 2010.

Tucannon River spring chinook returns have seriously diminished in the last 7 years. Returns were relatively stable from 1985-1993 (mean return = 550 fish). However, between 1994 and 1999, the average return declined to 196 fish (range 54-351). These poor adult returns, coupled with floods during the winters of 1996 and 1997 and low redd

counts because of the depressed returns, have left the river well below historical carrying capacity. The number of natural (not produced by hatchery) smolts from brood years (BY) 1994-1996 averaged less than 3,000 fish annually. By contrast, an average of 42,000 natural smolts (range 25,900-58,200) migrated from the 1985-1993 BYs. Adults returning from the three depressed brood years are estimated at a total of 50-60 fish. Finally, hatchery supplementation production from 1994-1996 was less than expected to offset low production in the river, further reducing the chance that the population will rebound. This Evolutionarily Significant Unit (ESU) of the Snake River Spring/Summer Chinook was listed as Threatened under the Endangered Species Act (ESA) in 1992.

These low spring chinook returns since 1994, and low returns expected in the future, have led the Washington Department of Fish and Wildlife (WDFW), the Nez Perce Tribe (NPT), and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) to propose this captive broodstock program to help preserve, and possibly increase, this depressed stock of ESA-listed fish. While current hatchery production exists for this stock, recent events (floods, poor ocean conditions, one hatchery production failure) have left the stock at such critically low numbers that preservation or rebuilding of the stock may not be possible unless more aggressive hatchery intervention is undertaken (captive broodstock program).

Two possible alternative plans have been identified and are addressed in the EA (Chapter 2). Briefly, they are as follows:

- Captive Broodstock Program (Proposed Action): BPA would fund: (1) minor construction at the Lyons Ferry Hatchery; collecting juvenile fish from the existing hatchery spring chinook ("supplementation") population for a period of five brood years (1997-2001), rearing these fish in the hatchery to maturity, and "spawning" them; (2) hatching and rearing their progeny; (3) acclimating and releasing up to 150,000 smolts annually (from 2002-2008) back into the Tucannon River to preserve and recover the population for the future.
- No Action Alternative: BPA would not fund the Tucannon River Spring Chinook Captive Broodstock Program and the project would most likely not be implemented. This alternative would continue the current supplementation program (132,000-smolt release) and try to rebuild the population from the low number of fish presently returning and expected to return over the next few years. This action might lead to trapping all returning fish each year, at least through the year 2000.

Table 1 in the EA summarizes the impacts of these two alternatives. The negative impact of the no action alternative is not acceptable because it would not be consistent with the Endangered Species Act or with WDFW's Wild Salmonid Policy. It would eliminate natural production above the hatchery, reinforcing a downstream shift in spawning distribution, away from the better juvenile rearing areas above the hatchery. In addition, this alternative could result in decreased genetic variability in later generations due to the small founder population size, which could further increase the chance of extinction for the population as a whole.

The Mitigation Action Plan in Appendix A of the EA further describes how the potential impacts would be monitored or mitigated. The party responsible for the monitoring and mitigation is specified.

Some additional alternatives to some of the activities in the proposed action were considered, but dismissed. These are discussed in sections 2.2.1 - 2.2.5 in the EA. Briefly these alternatives include the following:

- Rearing the fish at two hatcheries instead of one.
- Hydraulically pumping redds or collecting emergent fry from the Tucannon River instead of collecting eggs from the spring chinook supplementation program at Lyons Ferry Hatchery.
- Avoid collection of captive brood progeny fish for the supplementation program to minimize domestication impacts on the supplementation population; however, if the run experiences another collapse, captive brood fish might be collected.
- WDFW, NPT and CTUIR may propose alternative release strategies if the target of 150,000 smolts for release in any one year is exceeded. These alternatives include: using remote site incubators, a method of incubating eggs by placing them in a streamside container on in a spring tributary water source; outplanting unfed fry by using a small transport truck; releasing mature adults if the number of maturing adults exceeds program goals; and reintroducing spring chinook into Asotin Creek.

BPA has determined, based on the context and intensity (as described below) of the impacts identified for the preferred alternative, that they are not significant, using the definition of this concept in Section 1508.27 of the *Council on Environmental Quality Regulations for Implementing the National Environmental Policy Act*. This determination is based on the following discussion of section 1508.27.

- 1) The project aims to help preserve, and possibly increase, this depressed stock of ESA-listed fish. Natural Tucannon River chinook genetic diversity might be lost from domestication impacts in the captive broodstock program. However WDFW, the Tribes, and the National Marine Fisheries Service (NMFS) believe that the consequences of not doing anything (no project) could be extinction of this stock, with much more catastrophic genetic impacts on the population.
- 2) Implementation of the proposed action would not affect the health and safety of the people of the Tucannon River area. A comment was raised about the discharge of waste from the Tucannon Hatchery and acclimation ponds. However, as documented in section 3.2.1 of the EA, wastewater discharges from the facilities would be within permitted amounts.
- 3) The project would take place in established facilities. The only expansion or ground disturbance would be within the grounds of the existing Lyon's Ferry Hatchery. Thus no sensitive areas such as historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas would be affected.

- 4) The impacts of actions proposed under the preferred alternative are not significant due to their controversy. Comments that surfaced during the development and review of the preliminary EA focused on the potential effects on the steelhead sport fishery and river water quality. These comments have been addressed in the final EA and are found to be resolvable within the scope of this project.
- 5) The impacts of the proposed action are not significant due to the degree of highly uncertain, unique, or unknown risks. There are several other captive broodstock programs for anadromous fish in the Columbia Basin. The NMFS, the recognized entity with scientific expertise on fish issues, has reviewed the potential risks of this program. They have determined that the potential risks of this captive broodstock program outweigh the near certainty that this ESA-listed fish will become extinct if some kind of intervention is not employed.
- 6) The actions proposed would not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration.
- 7) The proposal is not connected (40C.F.R. 1508.25 (a)(1)) to other actions with potentially significant impacts, nor is it related to other proposed actions with cumulatively significant impacts (40 C.F.R. 1508.25 (a)(2)). Although the proposed action is related to actions being addressed under the *Impacts of Artificial Salmon and Steelhead Production Strategies in the Columbia River Basin Draft Environmental Impact Statement* (Draft EIS), it is not precluded by 40 C.F.R. 1506.1 or 10 C.F.R. 1021.211 because it is not a major Federal action and would not significantly affect the quality of the human environment. The actions proposed are independent of the actions proposed under the Draft EIS and would not prejudice the ultimate decision on the program, as they are low-tech, minimal-impact actions to be taken within a specified time period to prevent extinction of this individual stock. In addition, the DEIS has, by all appearances, been abandoned and is not being finalized.
- 8) As the project involves minimal ground disturbance at an existing facility, this project would not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural, or historical resources. It might help preserve this stock of fish, which are part of a population that is culturally significant to the Columbia River Tribes.
- 9) Several fish, wildlife, and plant species in the Tucannon River area are listed as threatened or species of concern under the ESA. Of those discussed in the EA in Chapter 3, the following could be affected:
 - a) **Bald Eagles.** On occasion, bald eagles have been spotted near the Tucannon Fish Hatchery, attempting to capture rainbow trout from the rearing pond. This project would not have any adverse effects on bald eagles and may be beneficial in that it would provide additional prey for them. No mitigation measures are needed.
 - b) **Ute's ladies'-tresses.** According to the letter received from USFWS on December 7, 1999 (USFWS 1999), there is the potential for Ute's ladies'-tresses (*Spiranthes diluvialis*) to occur in the project area. This plant would not be affected by this project. There is no ground disturbance planned other than the

expansion at the LFH. This expansion is in an area that is dry and has been mowed and otherwise maintained by the hatchery for weed control.

- c) **Bull Trout.** WDFW believes that the activities associated with this project may affect bull trout and could potentially result in competition with, predation on, transmission of diseases to, or displacement of bull trout in the river. However, it is believed that this potential is extremely low (WDFW 1999b). In fact, project activities may enhance the bull trout population by re-establishing an historic prey item for the bull trout within the river. The USFWS has concurred with these findings (USFWS 1999). There is potential for bull trout to be caught in the adult trap for the captive broodstock program. However, the WDFW bull trout take authorization permit requires annual reporting to USFWS on bull trout caught in the trap (WDFW 1999a), and any bull trout caught in the fish trap would be released immediately, with no/minimal handling.
- d) **Chinook Salmon (Snake River Spring/Summer-run ESU).** The Tucannon River supplementation fish that would be used for the captive broodstock program are part of the Snake River spring/summer-run ESU, which is listed as Threatened. The Tucannon River supports both naturally spawned and hatchery-spawned stocks. Hatchery supplementation began in 1988. Since the listing of the fish in 1993, WDFW has been authorized by NMFS under an ESA Section 10 direct take permit (Ref. #848, or #1126 and #1129) to operate the hatchery supplementation program and conduct associated research activities on this population. NMFS has completed and submitted its Biological Opinion regarding the captive broodstock program (NMFS 1999a) to its Headquarters Office, and is awaiting its approval. A status letter has been received confirming that NMFS agrees with the Captive Broodstock Program (NMFS 1999b).
- e) **Chinook Salmon (Snake River Fall-run ESU).** The proposed captive broodstock program would have no effects on natural fall chinook production in the Tucannon River. Captive brood progeny produced from the program and released into the Tucannon River would inhabit separate areas of the river, except for the brief period during smolt migration. It is not likely that captive brood progeny would have any negative effects on juvenile fall chinook during smolt migration. Returning progeny from the captive broodstock program would also have no effect on fall chinook because time and location within the Tucannon River separate them. No mitigation is needed.
- f) **Steelhead (Snake River Basin ESU).** Tucannon River steelhead are part of the Snake River ESU. Since 1990, the population has rapidly decreased, and NMFS, WDFW, NPT, and CTUIR consider the Tucannon River steelhead a candidate for supplementation to help rebuild the run. The clear failure of this natural stock to replace itself in recent years is caused by the same factors that have limited the spring chinook population. Captive broodstock progeny might transmit pathogens to the steelhead. This effect might be occurring in spawning and/or rearing areas, in addition to the entire juvenile migration corridor (Sanders et al. 1992). However, Chapman et al. (1994) concluded that disease transmittal from hatchery to natural populations is probably not a major factor negatively affecting natural steelhead in the Columbia Basin. See "Fish Health," in the EA, for a discussion

of the measures being taken to prevent disease transmission between captive broodstock fish and other fish, including steelhead.

There may be competition between juvenile spring chinook and steelhead for food and space when they are migrating out of the river. However, steelhead are bigger and are likely to out-compete the chinook. There is also a potential for steelhead to be caught in the adult trap for the captive broodstock program. However, any steelhead caught in the fish trap would be released immediately, with no/minimal handling. WDFW's steelhead take authorization permit requires annual reporting to USFWS on steelhead caught in the trap (WDFW 1999a). No additional mitigation is needed.

- 10) The actions proposed would not threaten to violate Federal, State, or local law or requirements imposed for the protection of the environment. The following permit and consultation *may* be required and will be obtained as needed: A National Pollution Discharge Elimination System permit will be needed for discharges from Curl Lake if the production level is exceeded. All other permits are in place. In addition, WDFW will comply with the terms and conditions of the Biological Opinion issued by NMFS.

Determination: Based on the information in the EA, as summarized here, BPA determines that the proposed action, the Tucannon River Spring Chinook Captive Broodstock Program, as described and analyzed in the EA, is not a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA, 42 U.S.C. 4321 *et seq.* Therefore, an Environmental Impact Statement will not be prepared, and BPA is issuing this FONSI.

Issued in Portland, Oregon, on May 24, 2000.

/s/ Alexandra B. Smith
Alexandra B. Smith
Vice President
Environment, Fish and Wildlife Group